Trends & Issues
Implications for Andersen Consulting's Practice

Presented By

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for the
Practice Strategy Planning Meeting

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Objectives

- Examine markets and trends over the past five years
- Identify and analyze major driving forces
- Examine the status and strategies of Andersen's competitors
- Identify potential threats to Andersen Consulting's strategy
- Identify appropriate responses for Andersen Consulting

Overview

- Historical perspectives
  - Markets
  - Competitors
- Current and future trends
  - Driving forces
  - Buying trends
- The competition
- Implications for Andersen Consulting

Sources of Information

- INPUT's annual information services market forecasts
- Key studies in professional services & systems integration:
  - *Systems Integration—Competitive Analysis*
  - *Systems Integration Market Forecast*
  - *European Markets in Systems Integration*
- Proprietary INPUT research on professional services
- Andersen Consulting's *Future Direction of Out Consulting Practice*

Historical Perspectives

Markets

- Overall industry growth between 15 and 18%, 1985 - 1989
- INPUT forecasts $93 billion for 1989
- Fastest growing sectors in software
- Professional services keeping pace
- Systems integration between 25 and 30% CAGR
- A growing impact from professional services

Impact of Professional Services 1985 - 1989

Revenues ($ Billions)

Year	Total IS Ind. Rev.	Professional Services	Systems Integration[1]	Prof. Svcs. Plus SI	Percent
1985	46.7	9.4	1.2	10.6	23
1986	54.6	10.7	1.6	12.3	23
1987	67.4	12.7	3.9	16.6	25
1988	80.2	15.0	4.8	19.8	25
1989[2]	93.5	17.6	5.8	23.4	25

1 - Broken out from Professional Services revenues for 1985 and 1986.
2 - INPUT's estimate based on 1989 - 1994 industry forecast.

Market Drivers 1985 - 1987

- Renewed drive for productivity—domestic & abroad
- Breakthroughs in functional and price performance of technology coupled with:
  - Shortages of professional staff
  - Growth of user managed development
  - Shorter product life cycles
  - Evolution of the IS function

Historical Perspectives

Competition

- Loss of account control by major hardware vendors
- Commitment of hardware vendors to systems integration
- Evolution of traditional professional services companies
  - To higher end of the life cycle
  - To alliances with hardware vendors
  - Development/acquisition of functional expertise
- Development of professional service channels by software companies
- Industry consolidation

Andersen Consulting's Development 1985 - 1989

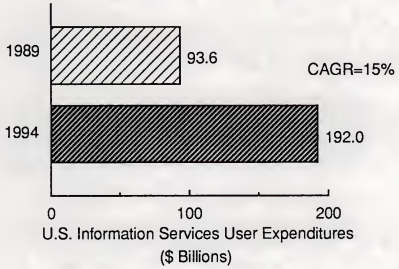
- Development and utilization of FOUNDATION methodology
- Heavy investments in education
- Creation of marketing and industry expertise
- Development of objective market image
- Industry-oriented, targeted marketing approach

Has made Andersen a leader to date

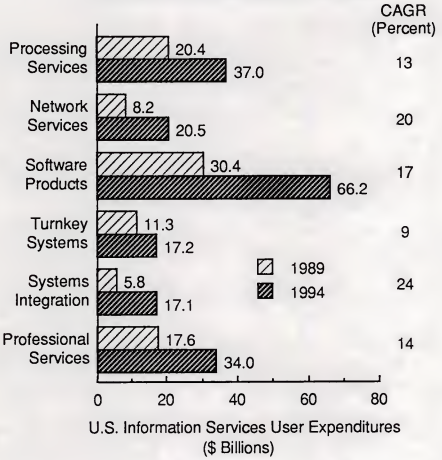
Current and Future Trends
Market Forecast

- Overall information services industry to grow at 15% CAGR
- $93.6 billion (1989) to $192.0 billion in 1994
- 2% slower than forecasted last year

TOTAL INFORMATION SERVICES MARKETS
1989-1994



TOTAL INFORMATION SERVICES SECTOR FORECAST BY DELIVERY MODE



Forces Driving the Market

Primary motivators will become stronger

- Drive for greater productivity
- Technology as a productivity/strategic weapon

Key environmental factors influencing the competition

- Globalization of markets
- Skill shortages
- Acceptance of standards
- Emerging opportunities in systems operations
- Industry consolidation

Industry Consolidation

- Driven by demand for full solutions
- Heaviest in software and professional services sectors
- Fastest-growing sector in professional services

Chasing scarce resources

Information Services Merger and Acquisition Transactions by Delivery Mode

	1988 (Percent)	1987 (Percent)
Professional Services/SI	23	18
Application Software Products	29	32
Systems Software Products	15	13
Processing Services	16	18
Turnkey Systems	12	14
Network/Electronic Information Services	5	5
Total	100	100

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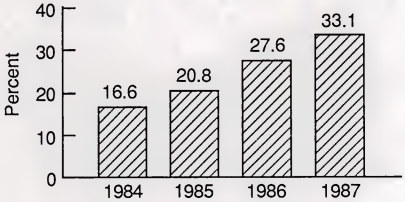
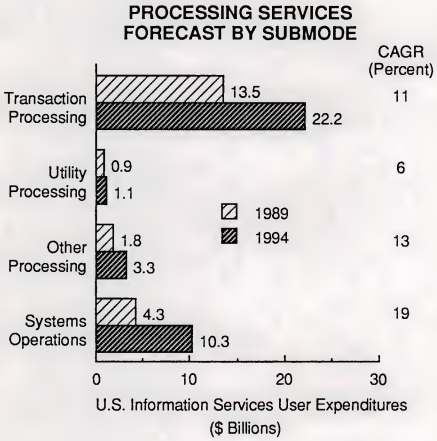
COMBINED MARKET SHARES, 1984-1987
Top-10 Professional Services Vendors*



* Based on combined commercial/federal professional services revenues

Emerging Opportunities
Systems Operations

- Fastest-growing segment of processing market—19% CAGR fueled by:
  - Changing attitudes of IS executives
  - Systems integration "drag"
  - Shortages of in-house staff
- Emerging component of hardware vendors' strategies


PROCESSING SERVICES
FORECAST BY SUBMODE
CAGR
(Percent)
Transaction
Processing
13.5
22.2
11
Utility
Processing
0.9
1.1
6
1989
1994
Other
Processing
1.8
3.3
13
Systems
Operations
4.3
10.3
19
0
10
20
30
U.S. Information Services User Expenditures
($ Billions)

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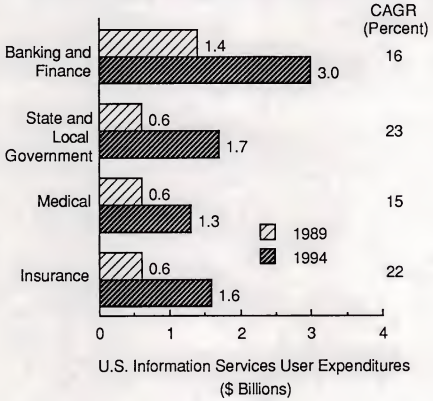
LEADING SYSTEMS OPERATIONS MARKETS



Buying Trends

- Acceptance of outside suppliers
- Supplier objectivity becoming a non-issue
- Growing sensitivity to price
- Emergence of the in-house integrator

Market Opportunities

- Systems integration
- Professional services
- Software

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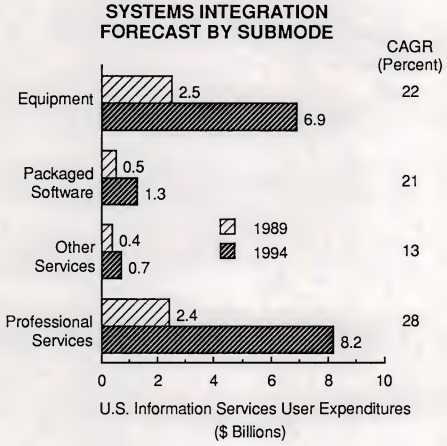

SYSTEMS INTEGRATION
FORECAST BY SUBMODE
CAGR
(Percent)
Equipment
2.5
6.9
22
Packaged
Software
0.5
1.3
21
Other
Services
0.4
0.7
13
Professional
Services
2.4
8.2
28
1989
1994
0
2
4
6
8
10
U.S. Information Services User Expenditures
($ Billions)

Systems Integration

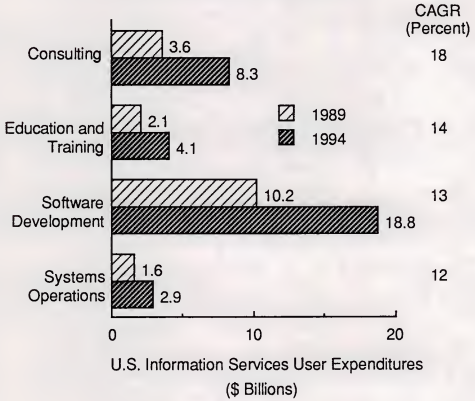
Major Trends

- Entry of major new vendors likely (government contractors)
- Alliances becoming more permanent
- Overseas markets develop rapidly
- Need for standardization of productivity tools
- Likelihood of commercial disasters
- Medium-sized companies under pressure in SI markets
- Demand for increasingly complex systems boosts SI market
- Mission-critical systems developed using SI methodology

Leading Vendors

- IBM, EDS, Andersen Consulting, CSC, Unisys, SAIC, Grumman, Boeing Computer Services, Control Data, PRC, DEC, AMS, SHL Systemhouse, NYNEX/AGS, MMDS

PROFESSIONAL SERVICES MARKETS FORECAST BY SUBMODE



Professional Services

Major Trends

- Mergers/acquisitions trend continuing
- "Big 8" accounting firms become "Huge 5"
- Vendors acquiring or allying with software companies
- IBM investments in major players (CTG, AMS) strengthens IBM as leader in this sector
- European firms' entry into U.S. market
- Continuing emphasis on methodology as marketing tool, as well as productivity aid
- Systems operations (client-owned systems) remains primarily in government markets
- Two-tiered market develops: not high-end strategic consulting (value-added) and low-end implementation services (price-sensitive)
- Continuing shortage of in-house skills drives key market segments, such as network development/management

Professional Services

Major Trends

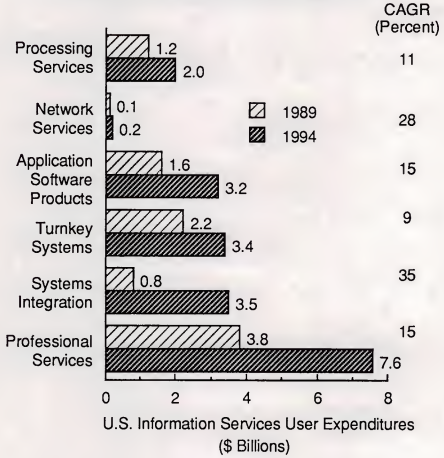
- Introduction of new technology benefits this sector, creates uncertainty, need for consulting/implementation support
- Large IS dept application backlog remains
- Resistance continues from IS managers' perceived loss of control in going outside
- Training/education expenses easy to defer in adverse times

Leading Vendors

- IBM, Unisys, CSC, Mitre, EDS, Andersen Consulting, BDM,Cap Gemini, Computer Task Group, GE Consulting, Applied Learning, DEC, Boeing Computer Services, MMDS, PRC, Advanced Systems Inc, TRW, Coopers & Lybrand, KMPG

Vertical Markets

DISCRETE MANUFACTURING SECTOR FORECAST BY DELIVERY MODE



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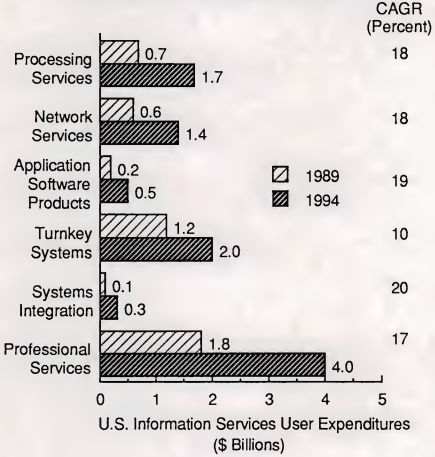
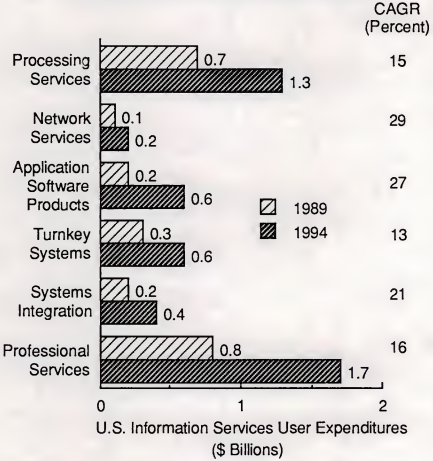
PROCESS MANUFACTURING SECTOR FORECAST BY DELIVERY MODE



TELECOMMUNICATIONS SECTOR FORECAST BY DELIVERY MODE



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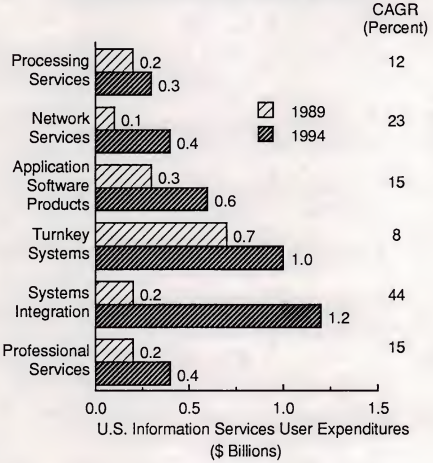
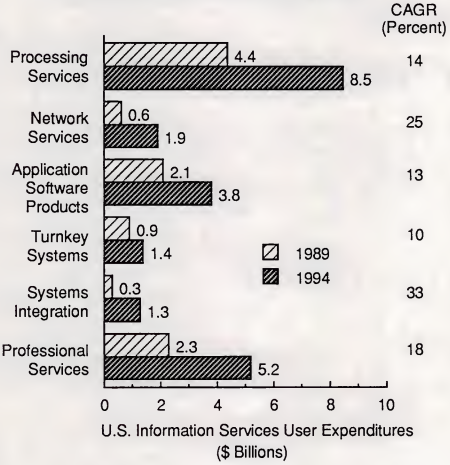
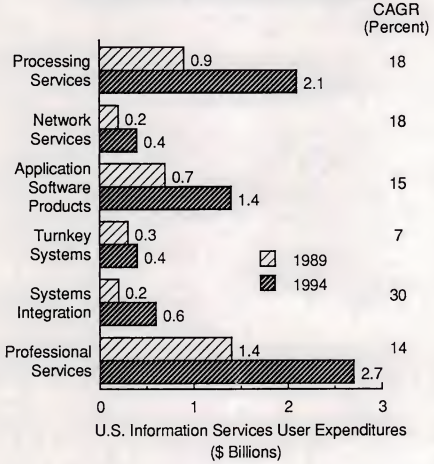
RETAIL DISTRIBUTION SECTOR FORECAST BY DELIVERY MODE



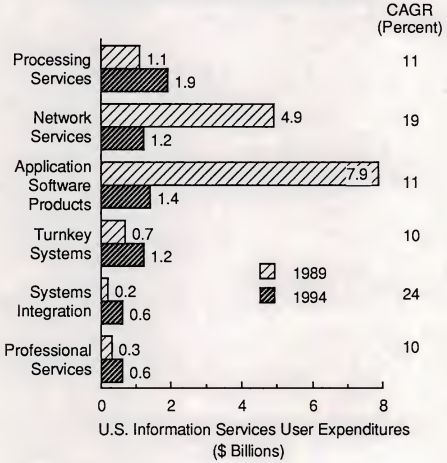
BANKING AND FINANCE SECTOR FORECAST BY DELIVERY MODE



INSURANCE SECTOR
FORECAST BY DELIVERY MODE



MEDICAL SECTOR
FORECAST BY DELIVERY MODE



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Competition

First tier:

- IBM
- Digital Equipment Corporation
- EDS
- Computer Sciences Corporation

Others:

- Unisys
- Other professional services companies

SYSTEMS INTEGRATION REVENUES, 1988
(Estimated)

Company	$ Millions		
	Commercial	Federal	Total
IBM	400	450	850
EDS	155	350	505
Andersen Consulting (1,2)	338	45	383
CSC (Computer Sciences)	45	300	345
Unisys	100	235	335
SAIC (Science Applications)	15	265	280
Grumman	-	250	250
Boeing Computer Services	25	175	200
Control Data Corporation	120	60	180
PRC (Planning Research) (3)	43	116	159
DEC (Digital Equipment)	100	40	140
AMS (American Mgmt. Systems)	103	13	116
SHL Systemhouse (1,4)	37	54	91
Nynex/AGS	70	10	80
MMDS (Martin Marietta)	-	80	80
Totals	1,551	2,443	3,994

(1) Fiscal year ending August 31, 1988
(2) Andersen revenues include no hardware pass through.
(3) PRC uses a "loose" definition for SI, so these revenues have been adjusted by INPUT to reflect a more common definition.
(4) Converted from Canadian dollars @ .82 Canadian dollars/U.S. dollar

LEADING COMPETITORS IN COMMERCIAL AND FEDERAL SI (In Descending Order)

Commercial	Federal
IBM	IBM
Andersen Consulting	EDS
EDS	Computer Sciences
Control Data Corporation	SAIC
AMS	Grumman
Digital Equipment	Unisys
Unisys	

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IBM

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IBM STAFFING FOR THE SI BUSINESS

Market	Staff
Federal	4,100
Commercial	3,000

IBM SYSTEMS INTEGRATION REVENUES, 1988

Market	$ Millions
Federal	450
Commercial	400
Total	850

37.1

IBM STRATEGIC PARTNERS IN SYSTEMS INTEGRATION

- American Management Systems (AMS)
- Electronic Data Systems (EDS)
- Andersen Consulting
- Coopers & Lybrand
- Computer Sciences Corporation (CSC)
- Computer Task Group (CTG)
- SHL Systemhouse
- Policy Management Systems
- Boeing Computer Services (BCS)
- Martin Marietta Data Systems

37.2

INPUT'S EVALUATION OF IBM'S SI CAPABILITIES

Strengths	Weaknesses
Hardware and systems software products	Solution consulting objectivity
In-house technical skills	Business consulting skills
Geographic coverage	Vertical market solutions
Federal experience	
Alliances	

37.3

DEC

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DEC SYSTEMS INTEGRATION REVENUES, 1988

Business Component	$ Millions
Federal	40
Commercial	100

DEC'S SI TARGET MARKET OPPORTUNITIES

Vertical	Cross Industry
Finance	Office Automation
Manufacturing	Artificial Intelligence
Federal & State Government	Engineering & Scientific
Public Industries	

38.1

DEC—LIMITED SAMPLE OF SI ALLIANCES

- Apple Computer
- Morrison-Knudsen Engineering
- Grumman Data Systems
- Computer Sciences Corporation (CSC)
- SHL Systemhouse
- CACI, Incorporated

38.2

INPUT'S EVALUATION OF DEC'S SI CAPABILITIES

Strengths	Weaknesses
Integrated VAX/VMS architecture	Perceived vertical industry expertise
In-house technical expertise	Large project experience
Geographic coverage	
Depth/breadth of alliances	

EXAMPLES OF DEC'S SI PROJECTS

Company/ Industry	Project Description	$ Millions
Firestone	CIM	21.0
Honeywell	Paperless factory	10.0
Bantam Doubleday	Network integration	3.0
Boeing	Sheet metal plant automation	52.0

EDS

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EDS SYSTEMS INTEGRATION REVENUES, 1988

Business Component	$ Millions
Federal	350
Commercial	155
Total	505

SI VERTICAL MARKET FOCUS—EDS

- Federal Government
- Discrete Manufacturing
- Process Manufacturing
- Retail and Distribution
- Aerospace

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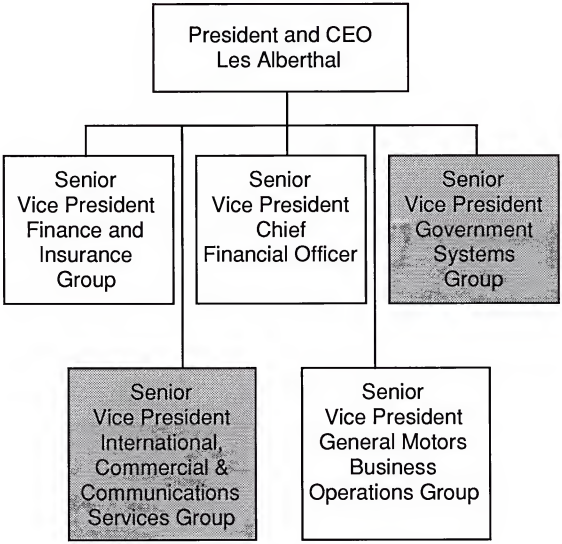
39.1

EDS ORGANIZATION



EDS BUSINESS OBJECTIVES

- 50% of business from non-GM sources by 1990
- 80% renewal rate
- SI as a source for systems operations contracts
- Control of existing customer base
- Profitable SI business

39.3

EDS—STRATEGIC ALLIANCES

Hardware	Digital Equipment IBM AT&T Apple Tandem
Systems software	Ameritech
CIM/satellite products and services	GM Hughes Electronics
International SI	Lucky Goldstar Telfonics
Large retail bank processing systems	Norwest Corporation Banc One Corporation

39.1

EDS'S COMPETITIVE STATUS

Strengths	Weaknesses
Operational experience	Systems operations/ processing mentality
Vertical industry knowledge	Limited branch office
Large experienced skill base	Network
Understand new technologies	
Alliances	

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34.5

CSC

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KANC-24

Fiscal Year 1989* Revenues by Business Segment

Business Segment	Revenues ($M)	Percent
Federal systems and services	881.1	67
Professional services	143.8	11
Credit services	110.9	9
Health and insurance systems	79.4	6
Infonet	63.7	5
Complementary services	25.5	2
Total	1304.4	100

* Fiscal year March 31, 1988 to March 31, 1989

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CSC Systems Integration Revenues

1988

Business Component	$ Millions
Federal	300
Commercial	45

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KANC-24.02

40.02

SI Market Focus

CSC

Vertical Industry	Functional
Federal Government	Networking
State and Local Government	Office Automation
Distribution	Digital Image Handling
Retail	
Finance	Facilities Management
Insurance	Logistics
Telecommunications Providers	
Publishing	
Manufacturing	

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40.23

Major Recent Development

- Acquisition of Computer Partners and Index Group
- Acquisition of CIG-Intersys
- Consolidation of commercial profession services
- Key executive appointments

70.04

CSC Competitive Status

Strengths	Weaknesses
Federal SI experience	Geographic coverage
Technical strength	Commercial sales organization and experience
Product vendor independence	
Business consulting skills	

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40.05

Examples of CSC's Customers and Contracts

Company/Industry	Project description
Dade County Airport	Automated cargo information system
U.S. Air Force	Stock control and distribution
Cincinnati Gas and Electric	Customer services system
AT&T	Trunk inventory and control system
U.S. Treasury Department	Consolidated data network
Kennedy Space Center	Office automation system
Major steel firm	Manufacturing information system
Massachusetts Water Resources Authority	Capital projects information system

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40.06

Implications for Andersen Consulting

- Current strategy
- Possible threats
- Keys to future success

40.07

Current Strategy

- Market size assumption valid
- Primary competitors identified
- List of strengths sound
- Image solid
- Weaknesses acknowledged but still a threat

40.08

Possible Threats

- Market myopia
- Lack of differentiation
- Mismanaged expansion
- Cultural elitism
- Scarcity of adequate capital
- Human resource constraints

40.09

Keys to Future Success

- Effective centralized management of
  - Marketing and sales
  - "Critical resource" allocation
  - Competitive information
  - Product development
  - Business expansion
- Relationship management, not engagement mentality
- Carefully orchestrated participation in system of open markets
- Continued investment in vertical application software
- Streamlined organization for cost effectiveness
- Leverage current success

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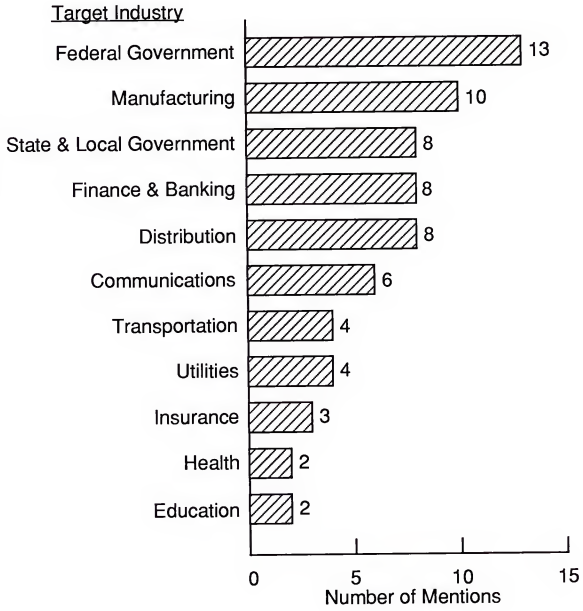
TARGET INDUSTRIES FOR SI VENDORS



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OVERALL VENDOR COMPARISON BY CLASS

Capability or Skill	Hardware Companies	Professional Services Companies	Telecommunications Companies	Aerospace Companies
Market share: Commercial	Strong	Strong	Average	Weak
Market share: Federal	Strong	Strong	Weak	Average
Vertical industry expertise	Average	Strong	Weak	Average
Ability to manage risk	Strong	Average	Average	Average
Internal capabilities, products, alliances				
Win/control the business	Average	Strong	Weak	Average
Successfully implement	Strong	Strong	Average	Strong
Support/service	Strong	Average	Average	Average
Client relationships	Average	Strong	Average	Average

Strong Average Weak

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